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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,233	12/21/2001	Akito Sato	MES1P060	3478

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EXAMINER

NGUYEN, LAMSON D

ART UNIT PAPER NUMBER

2861

DATE MAILED: 07/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/029,233

Applicant(s)

SATO, AKITO

Examiner

Lamson D Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 17-23 is/are rejected.
- 7) ☐ Claim(s) 8-16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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DETAILED ACTION

The request filed on 05/13/04 for an RCE under 37 CFR 1.114 based on parent Application No. 10/029,233 is acceptable and an RCE has been established. An action on the RCE follows.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4, 17, 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Endo (6,325,489)

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Endo teaches an inkjet printer comprising:

Claims 1, 17:

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- a printhead having a plurality of nozzle arrays, each of the nozzle arrays having a plurality of nozzles arranged along a sub-scanning direction for discharging a same ink (figure 9a teaches a printhead 1 having a plurality of nozzle arrays, each nozzle having a plurality of nozzles 2 arranged along sub-scanning direction for discharging same ink)
- wherein at least one pair of nozzle arrays for discharging different inks are positioned such that nozzles of the nozzle pair are arranged in a staggered manner and that no nozzles of the nozzle array pair are disposed at a same sub-scanning position, the pair of nozzle arrays being closer to each other than to any other nozzle arrays (figure 9a teaches 3 pairs of nozzle arrays c/C, K/m, and MY, each pair ejecting different inks and that the nozzles 2 in each pair are arranged staggered in such a way that no nozzles in that pair are disposed at the same position relative to the subscanning direction, and the pair of nozzle arrays are closer to each other than to any other nozzle arrays)

Claims 4, 20:

- wherein at least a half of the plurality of nozzle arrays are configured to make a nozzle array pair arranged in a staggered manner (figure 9a teaches all nozzle arrays are configured to make a nozzle array pair arranged in a staggered manner)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 18, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endo in view of Fukuhata (6,030,065).

Endo teaches all claimed features of the instant invention except:

- **In regards to claim 2, 18**, wherein the staggered nozzle array pair is connected to a pair of ink passages for supplying inks to the nozzle array pair and wherein the pair of ink passages is disposed inside of a same ink passage forming member
- **In regards to claim 3, 19**, wherein both the pair of ink passages have passage portions proximate to respective nozzles that protrude toward an opposite one of the pair of passages

Meanwhile, Fukuhata teaches a pair of ink passages supplying inks to two nozzle arrays, wherein the nozzle pair is disposed inside a same ink passage forming member (figure 3 teaches ink passages 30 for supplying inks of Cyan and black to two nozzle arrays 10C and 10K, where 10C and 10K both are disposed in channel plate 16).

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Fukuhata also teaches both the pair of ink passages have passage portions proximate to respective nozzles that protrude toward an opposite one of the pair of passages (figure 3)

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Endo to incorporate the teaching of a pair of ink passages and ink passages have passage portions proximate to respective nozzles that protrude toward an opposite one of the pair of passages taught by Fukuhata for the purpose of supplying ink through ink ports to transfer ink to the nozzles for printing and achieving an integrally constructed head sections.

Claims 5-7, 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endo in view of Fujita (6,491,373).

Endo teaches all claimed features including:

- **Claims 6, 22:** a light cyan nozzle array and a light magenta nozzle array arranged in staggered manner (figure 9a)
- **Claims 7, 23:** wherein 2 basic color nozzle arrays for discharging basic color inks of cyan and magenta are arranged to have a same positional relationship in the subscanning direction as that of a nozzle array pair in the staggered manner (figure 9a)

However, Endo does not teach:

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- **Claims 5, 21:** printing device is capable of bi-directional printing
- **Claims 5, 21:** wherein at least a pair of light ink nozzle arrays among the plurality of light nozzle arrays are arranged to have a same positional relationship at least in the subscanning direction as that of the staggered array pair

Meanwhile, Fujita teaches a printer that is capable of bi-directional printing (column 2, lines 8-10) and at least a pair of light ink nozzle arrays arranged to have a same positional relationship in the subscanning direction (figure 11 teaches a pair of light cyan arrays and a pair of light magenta arrays, staggered in the subscanning direction).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Endo to incorporate the teaching of bi-directional printing and a pair of staggered light ink nozzles taught by Fujita for the purpose of achieving fast printing results and gradation printing results, respectively.

Allowable Subject Matter

Claims 8-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

- Reasons for allowance for claims 8-16

Response to Arguments

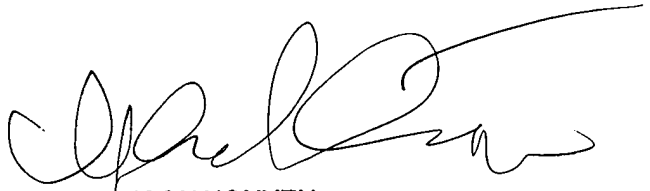
Applicant's arguments dated 03/18/04 with respect to claims 1-4 and 17-20 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lamson D Nguyen whose telephone number is 571-272-2259. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



LAMSON NGUYEN
PRIMARY EXAMINER
07/21/07